

A Review On The Occurrence Of Micro Pollutants In Waste Water

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Abstract- Due to increase rate of population, the requirement of people for daily needs also increased nowadays. Micro pollutants include Pharamauticals, personal care products, pesticides, industrial chemicals and Hormones. They are major problem because they are not completely biodegradable. Micro pollutants are remaining in wastewater also after the treatments as they not get easily removed. Micro pollutants are mainly found in wastewater through manufacturing process by the disposal of unused, expired products and excreta. The occurrence and identification of Micro pollutants is done in this paper.

Keywords- micro pollutants, pharamauticals; personal care products.

I. INTRODUCTION

Micro pollutants includes substances such as Pharamauticals, personal care products, hormones, expired medicines and industrial chemicals. Micro pollutants found in wastewater treatment plant influents and effluents, hospital wastewater, wastewater from Pharamauticals manufacturing companies, industrial wastewater and even in surface water and ground water. Pharmaceuticals are used at increasing rate and end up in wastewater through excretion and disposal. Micro pollutants do not constitute an immediate health hazard, the long term effects of these permanently present micro pollutants are becoming sensitive to aquatic environment, at low concentrations.

Sources of micro pollutant: A micro pollutant comes from use pharmaceuticals and personal care products, hormones, pesticides and industrial chemicals. Toxic micro pollutants usually end up in wastewater treatment plants in the form of domestic uses of textiles, electronics, pharmaceuticals, and cosmetic and hygiene products. Also from industrial discharge, storm water runoff from cities, and surface run-off from agricultural areas.

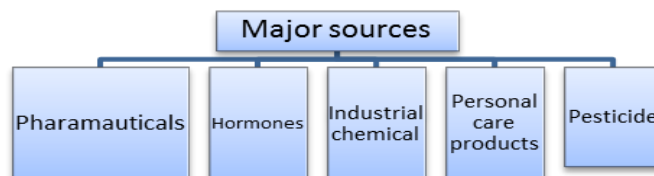


Fig.No.01: Major sources of micro pollutants

II. OBJECTIVE

1. The impact of micro pollutants on the ecosystem.
2. To minimize negative impacts of micro pollutants on human health and environment.
3. Finding commonly occurring micro pollutants in wastewater.
4. To help ecosystem and environment from micro pollutants.

III. PROBLEM STATEMENT

Pharamauticals are used by human which are not efficiently removed during wastewater treatment. Minor emerging contaminants generally found in wastewater are diclofenac, buprofen, ketoprofen, suifamethoxazole, methylparaben, bisphenol-A, nicotine, cotinine, caffeine and 1,7-dimethylxantine. Major contaminants found in wastewater are nicotine and clarithromycin. These are major because normally these shows toxicity level of waste water & in India normally the people addicted to various bad habits which evolved Nicotin in wastewater through alcohol, Tambhakhu etc. Diclofenac acid, carbamazepine, mefenamic acid and N,N-diethyl-m-toluamide, diclofenac acid (DF), carbamazepine (CBZ), chloramphenicol (CP), mefenamic acid (MA), trimethoprim (TP), N,N-diethyl-m-toluamide (DEET) and bezafibrate (BF) are some minor contaminants. These are because of Pharmaceutical discharge into water But as per my knowledge in Satara there is no any pharmaceutical Companies which discharges w/w into river. Major contaminant found in wastewater is Chloro Compounds. Naproxen, ibuprofen, ketoprofen, salicylic acid, caffeine, diclofenac, carbamazepine,

galaxolide, methylhydrojasmonate and tonalide are contaminants due to pharmaceuticals. Benzenes and its other form found in major because for most of the Indian cities whatever wastewater discharges which highly contains Caustic Soda which uses for washing clothes, various Soaps such as Harpic, Domesti etc. those all are the complex form of Benzene Aromatic Hydrocarbon. There are mainly following Contaminants which widely found in Nature,

- Nicotine
- Phenolic compounds
- CBZ
- Methadoner
- Benzophenon
- Methylparaben
- Bisphenol-A
- Sulfasalazine
- Azithromycin

IV. METHODOLOGY

For removal of micro pollutants wastewater treatment need to add an additional barrier with advanced water treatment technologies. Micro pollutants are found in wastewater in very small amount which cannot be analyzed by normal tests so therefore for identification of micro pollutants High performance liquid chromatography is used. Powdered activated carbon has an adsorption capacity of organic matter and can adsorptions pharmaceutical residue and other micro pollutants.

V. COCLUSION

Micro pollutants such as pharmaceuticals, personal care products and other chemicals in wastewater are not get completely removed. Therefore it is a subject to intensive research on how to remove these compounds from wastewater. It is time for people to pay attention to the issue of micro pollutants emission and even to designing to new treatment method.

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